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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,539	11/25/2003	Seong-Hee Lee	Q78339	4403

23373 7590 01/11/2007  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER
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DOAN, KIET M

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/720,539	LEE, SEONG-HEE	
	Examiner	Art Unit	
	Kiet Doan	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 17-22 and 33-38 is/are rejected.
- 7) ☒ Claim(s) 7-16, 23-32 and 39-48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                            | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 8-16, 23-32, 40-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten including in independent form including all limitations and specific detail of the base claim and any intervening claims.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-7, 17-22, 33-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Romans (Patent No. 6,564,074).

Consider **claims 1, 17, 33**. Romans teaches a power consumption reducing apparatus comprising:

a periodic active state conversion unit which, in each awake period, converts an inactive state into an active state, wherein power consumption is greater in the active state than in the inactive state (C1, L55-63 teach control station periodic transmitted beacon signal to active/wake up station);

a beacon frame reception unit which, in an active state converted by the period active state conversion unit, receives a beacon frame (C2, L3-9);

an awake window setting unit which, when the beacon frame reception unit receives the beacon frame, and if an interval value of an awake window, in which the

Art Unit: 2617

active state is maintained for a predetermined time, among field values of the received beacon frame is valid, sets the awake window (Abstract, C2, L1-16, C3, L5-50);

an awake window interval counting unit which counts, in a counting, the interval value in the awake window set by the awake window setting unit; and

an inactive state conversion unit which, if the awake window counting unit finishes the counting, converts the awake window into an inactive state (C5, L65-67, C6, L20-23, C7, L21-67).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Romans system, such that a power consumption using beacon frame and converts an inactive state into an active state to provide means for the users station consumption/saving power keeping station inactive/sleep mode when not receiving beacon frame.

Consider **claims 2, 18, 34**. Romans teaches the apparatus of claim 1, wherein if the beacon frame reception unit does not receive the beacon frame within a predetermined time, or if the beacon frame is received within the predetermined time and a length value of the awake window contained in the received beacon frame is not valid, the awake window setting unit converts the active state into the inactive state (C5, L65-67, C6, L20-23, C7, L21-67).

Consider **claims 3, 19, 35**. Romans teaches the apparatus of claim 1, wherein the awake window counting unit counts by repeatedly subtracting a predetermined unit

value from the interval value of the awake window in each counting period (C7, L21-30).

Consider **claims 4, 20, 36**. Romans teaches the apparatus of claim 1, wherein the active state is a state where a full power is provided and the inactive state is a state where a minimum power needed for conversion into the active state is provided (C5, L44-67, C6, L1-36)..

Consider **claims 5, 21, 37**. Romans teaches the apparatus of claim 1, further comprising: a data frame transmission and reception unit which transmits and receives a predetermined data frame in the awake window set by the awake window setting unit (C6, L37-60)..

Consider **claims 6, 22, 38**. Romans teaches the apparatus of claim 5, wherein the power consumption reducing apparatus is an apparatus of a first station on a predetermined wireless ad-hoc network (C1, L55-60, C3, L5-11).

Consider **claims 7, 23, 39**. Romans teaches wherein in each awake period, the beacon frame is transmitted through a predetermined channel to all stations, except a station having transmitted the beacon frame, on the wireless ad-hoc network (C1, L55-60, C3, L5-11, C40-67, C4, L1-30).

Art Unit: 2617

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Linskog et al. (Pub. No. 2002/0132603)

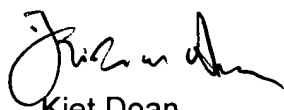
2. Hong et al. (Patent No. 6,292,508).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863.

The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Kiet Doan  
Patent Examiner

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER